WHAT IS CLAIMED IS:

1. A method for mitigating errors in frames of a received communication, comprising:

determining a reference signal based on the received communication;

determining a modified reference signal based on the received communication; and

adjusting an adaptive codebook gain parameter for an adaptive codebook and a fixed codebook gain based on a difference between the reference signal and the modified reference signal.

2. The method according to claim 1, wherein the reference signal is determined based on transmitting parameters of the received communication.

3. The method according to claim 2, wherein the transmitting parameter includes at least a long-term prediction lag, fixed codebook, adaptive codebook gain vector g_p, fixed codebook gain vector g_c and linear prediction coefficients $A(z)$.

4. The method according to claim 2, wherein the reference signal is determined by adding an adaptive codebook vector with a fixed codebook vector to form an excitation signal and passing the excitation signal through a synthesis filter.

5. The method according to claim 4, wherein the adaptive codebook vector is amplified by an adaptive codebook gain vector g_p and the fixed codebook vector is amplified by a fixed codebook gain vector g_c prior to being added together to form the excitation signal.

6. The method according to claim 3, wherein the reference signal is determined by adding an adaptive codebook vector with a fixed codebook vector to form an excitation signal, and passing the excitation signal through a synthesis filter.

7. The method according to claim 6, wherein the adaptive codebook vector is based on at least the long-term prediction lag and the fixed codebook vector is based on the fixed codebook.

8. The method according to claim 7, wherein the adaptive codebook vector is amplified by the adaptive codebook gain vector g_p and the fixed codebook vector is amplified by the fixed codebook gain vector g_c prior to being added together to form the excitation signal.

9. The method according to claim 8, wherein the difference between the reference signal and the modified reference signal is based on a mean squared error between the reference signal and the modified reference signal.

10. The method according to claim 9, wherein the difference between the reference signal and the modified reference signal is based on the mean squared error between the reference signal and the modifying reference signal, wherein the difference is minimized.

11. The method according to claim 10, wherein the difference between the reference signal and the modified reference signal is minimized according to the equation:

$$\min_{g'_p,\, g'_c} \sum_{n=0}^{N_s-1} (h(n) * (u(n) - (g'_p v'(n) + g'_c c'(n))))^2$$

where N_s is a subframe size and h(n) is an impulse response corresponding to 1/A(z).

12. An apparatus for mitigating errors in frames of a communication, comprising:

a signal receiver that receives a communication; and

an error correction device coupled to the signal receiver that determines a reference signal based on the communication, determines a modified reference signal based on the communication, and adjusts an adaptive codebook gain parameter for an adaptive codebook and a fixed codebook gain based on a difference between the reference signal and the modified reference signal.

13. The apparatus according to claim 12, wherein the error correction device determines the reference signal based on transmitting parameters of the communication.

14. The apparatus according to claim 13, wherein the transmitting parameter includes at least a long-term prediction lag, fixed codebook, adaptive codebook gain vector g_p, fixed codebook gain vector g_c and linear prediction coefficients A(z).

15. The apparatus according to claim 13, wherein the error correction device determines the reference signal by adding an adaptive codebook vector with a fixed codebook vector to form an excitation signal and passing the excitation signal through a synthesis filter.

16. The apparatus according to claim 15, wherein the adaptive codebook vector is amplified by an adaptive codebook gain vector g_p and the fixed codebook vector is amplified by a fixed codebook gain vector g_c prior to being added together to form the excitation signal.

17. The apparatus according to claim 14, wherein the error correction device determines the reference signal by adding an adaptive codebook vector with a fixed codebook vector to form an excitation signal, and passing the excitation signal through a synthesis filter.

18. The apparatus according to claim 17, wherein the adaptive codebook vector is based on at least the long-term prediction lag and the fixed codebook vector is based on the fixed codebook.

19. The apparatus according to claim 18, wherein the adaptive codebook vector is amplified by the adaptive codebook gain vector g_p and the fixed codebook vector is amplified by the fixed codebook gain vector g_c prior to being added together to form the excitation signal.

20. The apparatus according to claim 19, wherein the error correction device determines the difference between the reference signal and the modified reference signal based on a mean squared error between the reference signal and the modified reference signal.

21. The apparatus according to claim 20, wherein the error correction device determines the difference between the reference signal and the modified reference signal based on the mean squared error between the reference signal and the modifying reference signal, wherein the difference is minimized.

22. The apparatus according to claim 21, wherein the error correction device minimizes the difference between the reference signal and the modified reference signal according to the equation:

$$\min_{g'_p,\, g'_c} \sum_{n=0}^{N_s-1} (h(n) * (u(n) - (g'_p v'(n) + g'_c c'(n))))^2$$

where N_s is a subframe size and h(n) is an impulse response corresponding to

1/A(z).